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THE THREE MAIN STYLES OF TEMPLE
ARCHITECTURE RECOGNIZED BY
THE ŚILPA-ŚĀSTRAS

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The object of this paper is to correct, in the light of literal translations of the original texts, the current identification of the *Nāgara*, *Vēsara* and *Drāviḍa* styles of temple architecture. As what has been called *Nagara* by recent authors proves to be really *Vesara*, we have had to consider at some length the real identity of the *Nagara* style; and this has necessitated the inclusion of a brief account of the development and affinities of early Chalukyan and other temples with square *śikhara*.

A summary of our conclusions is given on pp. 22-26.

On p. 302 of his "Dictionary of Hindu Architecture" P. K. Acharya says with reference to the *Suprabhedāgama* "According to this Āgama the buildings of the *Nāgara* style are quadrangular from the base to the top; those of the *Drāviḍa* style are octagonal from the neck to the top; and those of the *Vēsara* style are round from the neck to the top. Apparently the lower part of the buildings of the two latter styles is quadrangular."¹ These definitions can only have been intended as brief and convenient indications of

¹ *Suprabhedāgama*, *Adhyāya* 30, vv. 40-42.

अङ्गोत्सेधं तु कर्तव्यमर्धाङ्गं तु न कारयेत् ।
द्वारभेदमिदं प्रोक्तं जातिभेदमतः शृणु ॥ 40 ॥
नागरं द्राविडं चैव के(वे)सरं च त्रिधास्मृतम् ।
कण्ठादारभ्य वृत्तं यत्तत्के(वे)सरमिति स्मृतम् ॥ 41 ॥
श्रीवमारभ्य चाष्टाश्रं विमानं द्रविळाख्यकम् ।
सर्वं वै चतुरश्रं यत्प्रासादं नागरं त्विदम् ॥ 42 ॥

aṅgōtsēdham tu kartavyam ardhāṅgam tu na kārayēt |
dvārabheda-midaṁ prōktaṁ jātibhēdamataḥ śṛṇu || 40 ||
nāgaraṁ drāviḍam chaiva kē (vē) saraṁ cha tridhā smṛitam |
kaṇṭhādārabhya vṛttam yattat kē(vē) saramiti smṛitam || 41 ||
śrīvamarabhya chāṣṭāśraṁ vimānaṁ draviḷākhyakam |
sarvaṁ vai chaturaśram yatprāsādam nāgaraṁ tvidam || 42 ||

the different styles, not as descriptions of them; and it is clear that they must all refer to the *vimāna* tower over the shrine, often being inapplicable to other parts of the building. At the time when they were probably formulated this tower was always the most conspicuous part of a temple even in the Dravida style, in the later phases only of which special prominence is given to the *gopuram* instead.¹ And in the original text the *vimana* is actually specified as the structure referred to in the Dravida definition, though this is not indicated in Acharya's translation.

As a convenient indication of style the definition of *Drāviḍa* is admirable; but that of *Vēsara* indicates no less clearly the northern style of *vimāna* with its circular *āmalaka* form of *śikhara* above the neck, to which the term *Nāgara* has unfortunately been generally applied by modern writers.

And here, as we have to make frequent use of it, we must point out that the current use of the term *śikhara* for the whole of a particular kind of tower is also incorrect. *Śikhara* means literally "that which bears the *śikhā*", *śikhā* meaning either a flame or an upright tuft of hair, from which *śikhara* comes to mean "head". The tower over a shrine is usually surmounted by some form of *śikhara* or head, bearing a *stūpi* or finial, sometimes called a *śikhā* or flame; but the tower itself is a *vimāna*, whatever its shape, not a *śikhara*.

The identification of *Nāgara* with the northern or Indo-Aryan style, as it has also been called, seems to have resulted from Ram Raz's account of the most complete and probably the earliest of the *Silpa Sastras*, the *Mānasāra*. On page 49 of his "Essay on the Architecture of the Hindus" we read "A quadrangular temple is called *nagara*, an octagonal *dravid'ha* and a circular *vesara*", with nothing to indicate that this applies only to the part above the neck, that is to say to the *śikhara*—an omission which makes a serious difference and, in the case of Dravida at least, definitely renders the definition inapplicable.

The passage on which Ram Raz's statement is based is found on pages 299-300 of P. K. Acharya's "Dictionary of Hindu Architecture", where its meaning is given as "The *Nagara* style is distinguished by its quadrangular shape, the *Vesara* by its round shape, and the *Dravida* by its octagonal or hexagonal shape." When, however, we turn

¹ The earliest surviving free-standing temples in the Dravida style are at Mahabalipuram (Seven Pagodas). All are simple shrines without any subsidiary structures. One is "quadrangular from the base to the top" but is unlike any other known temple and is undoubtedly modelled on a thatched hut of a type illustrated in the sculptures on the railing of the Amaravati stūpa. No later temple seems to have been constructed on this model, though in Bengal a somewhat different type of thatched hut seems to have formed the prototype of a distinctive style (see Gangoly, "Indian Architecture," pp. 23-24, fig. 36). The others are all in true Dravida style but of two different shapes, two equal sided with octagonal *śikhara*, and two longer in one direction than in the other with barrel-roofed *śikhara*, one of these latter being apsidal at one end like a Buddhist chaitya hall. In later temples the former shape was adopted for the *vimana* and the latter for the *gopuram*. It is obvious that the above quoted definition can only apply to the former.

² See Havel, "A Study of Indo-Aryan Civilization", page 89.

to the Sanskrit text¹ as given in Acharya's "*Mānasāra*—Sanskrit text with Critical Notes" we find fuller definitions the import of which, though at first sight somewhat obscure, is not difficult to recognize when they are considered in relation to the types of building known to have been in vogue when they were compiled. The relevant section may be literally translated as follows :—

The shape of the part consisting of neck, etc., up to sikhara is square or rectangular or two-cornered or circular from the bottom to the stūpi. It is endowed with three, two or even one stupis. That which is quadrangular is called Nagara. That in which the extremity of the bottom has a circular shape, or is an elongated circle,—[? by studying it intelligently] it is from the neck onwards to stūpi two-cornered, [namely] in front of the circle two-cornered—is called Vesari. That which from the extremity of the bottom to the stūpi is octagonal or hexagonal, or even has its extremity elongated, its base below the neck two-cornered and the upper part as narrated above, is what is called Dravida; it has one flame over an even-number-cornered sikhara but has three flames over an elongated one.

¹ *Mānasāra*, *Adhyāya* 18, lines 90—100.

मूलादिस्तूपिपर्यन्तं वेदाश्रं चायताश्रकम् ॥ 45 ॥

द्व्यश्रं वृत्ताकृतिं वाथ ग्रीवादिशिखराकृतिः ।

स्तूपिकात्रयसंयुक्तं द्वयं वा चैकमेव वा ॥ 46 ॥

चतुरश्राकृतिं(ति) यस्(यत्) तु नागरं तत्प्रकीर्तितम् ।

मूलाग्रं वृत्तमाकारं तद्वृत्तायतमेव वा ॥ 47 ॥

ग्रीवादिस्तूपिपर्यन्तं युक्ताथो(क्त्याथ) तद्युगाश्रकम् ।

वृत्तस्याग्रे द्व्यश्रकं तद्वेसरी(र)नामकं भवेत् ॥ 48 ॥

मूलाग्रास्तूपिपर्यन्तं अ(चा)ष्टाश्रकं वा षडश्रकम् ।

तदग्रं चायतं वापि ग्रीवस्याधो युगाश्रकम् ॥ 49 ॥

पूर्ववच्चोर्ध्वदेशं स्याद्द्राविडं परिकीर्तितम् ।

समाश्रकशिखायुक्तं चायामे तच्छिखात्रयम् ॥ 50 ॥

90 mūlādi-stūpi-paryantaṁ vēdāśraṁ-chāyatāśrakam ॥ v. 45

91 dvyaśraṁ-vṛttākṛtiṁ vātha grīvādi-śikhara-kṛtiḥ ।

92 stūpikā-traya-samyuktaṁ dvayaṁ vā chaikamēva vā ॥ v. 46

93 chaturaśrākṛtiṁ (ti) yas (yat)tu nāgaram tatprakīrtitam ।

94 mūlāgram vṛttamākāram tadvṛttāyatamēva vā ॥ v. 47

95 grīvādi-stūpi-paryantaṁ yuktātho (-ktyātha) tadyugāśrakam ।

96 vṛttasyāgre dvyaśrakam tadvēsari (-ra) nāmakaṁ bhavēt ॥ v. 48

97 mūlāgrāt stūpi-paryantaṁ a(chā)ṣṭāśrakam vā ṣaḍāśrakam ।

98 tadāgram chāyatam vāpi grīvasyādhō yugāśrakam ॥ v. 49

99 pūrvavachchōrdhavadēśam syād-drāviḍam parikīrtitam ।

100 samāśrakaśikhāyuktaṁ chāyāmē tachchikhātrayam ॥ v. 50

This not only confirms the Suprabhedagama statement that the shapes mentioned are characteristic of the crowning portion of the building and not, in the case of Vesara and Dravida, of the building as a whole, but further introduces in the case of both these styles a third form of building, elongated, with two corners at one end, the other end being circular in the Vesara style, but apparently octagonal or hexagonal in the Dravida. The descriptions of this form of building are very confused; but it seems to us that they must refer to apsidal buildings, modelled on the same lines as the Buddhist chaitya hall, such as have been made from very early times in various parts of the country, though so far as we know the apse is always of circular form even in Dravida examples. Such vimanas seem always, however, to have been much less frequent than those built on a quadrangular base, and the author of the Suprabhedagama omits all reference to them.

It is thus clear that the Manasara and Suprabhedagama agree in their definitions of the three styles of normal, *i.e.*, more or less square based, vimanas and that the northern style with its sikhara in the form of a circular *āmalaka* must be identified with the Vesara and not with the Nagara style. Before going on to the identification of the Nagara style a further text may be considered.

The age of the Manasara is given by Acharya as probably about 500-700 A.D.; and as it can hardly have been compiled before the buildings it describes were erected it can only be from the later part of this period unless the structures which preceded surviving buildings were practically identical with them in form. The Suprabhedagama is somewhat later. Nearly a thousand years later still, in the latter part of the sixteenth century¹, a compendium of the Śilpa-Śāstras was prepared under the title *Śilparatna* by Śrī Kumāra, under instructions from King Devanārāyaṇa of Ambalappuzha in Travancore. Literally translated the passage defining the three styles² reads as follows:—

50. . . . Now the shape is narrated.

51. That dwelling is called Nagara which is constructed two-cornered from bottom to sikhara. Dravida is constructed from bottom to sikhara six-[or] eight-cornered. Vesara is beautifully circular from

¹ See T. Ganapati Sastri "The Śilparatna by Śrī Kumāra," *Trivandrum Sanskrit Series*, No. lxxv., Preface, p. 2.

² *Śilparatna*, 16th *adhyāya*, vv. 50-53.

. आकृतिः कथ्यतेऽधुना ॥ 50 ॥

मूलादाशिखरं युगाश्ररचितं गेहं स्मृतं नागरं

मूलादाशिखरक्रियं षड्रगाश्रोद्धेदितं द्राविडम् ।

मूलाद्वा गलतोऽथवा परिलसद्दृत्तात्मकं वेसरं

तेष्वेकं पृथगात्तलक्षम् सुविदध्यादात्मनः सम्मतम् ॥ 51 ॥

(continued on next page).

bottom or from neck. From these any individual one [dwelling] of required definitions can be constructed as one likes most.

52. That is Nagara which is two-cornered from bottom onwards to stūpi. They understood that dwelling as Dravida which is eight-cornered [at] head and neck.

53. That dwelling is called Vesara which is endowed with circular neck and head. This is said with reference to dwellings devoid of peak, niche, etc.

Here again it is clear from both references to the Vesara style that its most important characteristic is that it is circular above the neck and, further, that neither of the other two styles can have this feature. In the second reference to these two styles their characteristic shapes are referred respectively to the same parts as in the Manasara and Suprabhedagama; but in the initial reference they are referred in both to the whole building "from bottom to sikhara" just as they are in all three styles by Ram Raz. Thus the second definition of Dravida agrees with buildings in that style, but the other does not. Both the definitions of Nagara agree with those of the Manasara and Suprabhedagama in saying that the characteristic shape extends from the bottom to the top; but both give this shape as "two-cornered". So far as we know "two-cornered" can only relate to an apsidal building; but of this there is here no further indication, and Nagara is the only style in which such buildings are *not* mentioned in the Manasara definitions. Obviously the Silparatna account is confused, and we suspect that like too many others it has been compiled from purely literary or even traditional sources, without consideration of actual buildings.

In this impression we are confirmed by the author's geographical location of the styles. He tries in verses 40-50 to link each of the three styles with a particular one of the three chief castes, of the *Trimūrti*, of the three temperaments, and of three regions of

जन्मादिस्तूपिपर्यन्तं युगाश्रं नागरं भवेत् ।

वस्त्रश्रं शीर्षिकं कर्ण(कण्ठ) द्वाविडं भवनं विदुः ॥ 52 ॥

वृत्तकर्ण(कण्ठ)-शिरोपेतं वेसरं हर्म्यमीरितम् ।

कूटकोष्ठादिहीनानां हर्म्याणां कथितं त्विदम् ॥ 53 ॥

. . . ākṛtiḥ kathyate 'dhunā ॥ 50 ॥

Mūlādāsikharam yugāśra-rachitaṁ gehaṁ smṛitaṁ Nāgaraiṁ

Mūlādāsikharakriyaṁ śaḍuragāśrodbheditaṁ Drāviḍam |

Mūlād vā galatō 'thavā parilaśad-vṛittātmakaṁ Vesaraṁ

Teshvekam pṛithagāttaḥ akṣhma suvidadhyādātmanaḥ sammatam ॥ 51 ॥

Janmādi-stūpi-paryantaṁ yugāśraṁ Nāgaraiṁ bhavet |

Vasvaśram śīrshakaṁ karṇam (kaṇṭhaṁ) Drāviḍam bhavanaṁ viduḥ ॥ 52 ॥

Vṛitta-karṇa (kaṇṭha)-śiropetaṁ Vesaraṁ harmyamfritam |

Kūṭakossthādihinānām harmyāpām kathitam tvidam ॥ 53 ॥

India. It is therefore not altogether surprising to find that his two consecutive accounts are not wholly consistent with one another. He links Nagara with the *sātvika* temperament, Vishnu, Brahmins and the region from the Himalayas to the Vindhya; Dravida with the *rājasa* temperament, Brahma, Kshatriyas and (1) the Dravida country or (2) the region from the Vindhya to the Krishna; and Vesara with the *tāmasa* temperament, Śiva, Vaisyas and (1) the region between the Vindhya and Agastya (Podiyil) Mountains or (2) the region from the Krishna to Cape Comorin. Clearly such a geographer cannot be implicitly relied upon.¹ He seems, indeed, not to have been without his own doubts, for in verse 44, between the two versions, he says "All styles can be found in all countries, so say some."²

That the terms Nagara, Vesara and Dravida are more or less geographical in origin seems, however, to be generally believed. The geographical implication of Dravida is obvious, especially when taken in connection with the location of temples characterised by an octagonal sikhara over the vimana. But that of Nagara and of Vesara is less easy to determine and has been discussed at length by P. K. Acharya.³ He concludes that Nagara probably refers to the land of the *Nāgarī* alphabet, which is the northern part of India. This agrees with the location suggested, though not altogether reliably (as noted above), in the Silparatna and with the well known fact that the word *Nagara*, though used of many different places, was especially associated with the capital of the Mauryan empire, Pataliputra. But no real proof seems to be available. His identification of Vesara with Telugu is still more unsatisfactory, and is rendered extremely improbable by the fact that this country lies entirely outside the extensive area of which Vesara temples are characteristic. Whatever its origin, by the time of the compilation of Manasara it had evidently come to be applied definitely to what is now known as the northern style.

It is thus clear that the northern and southern styles, the two main styles of temple architecture as we find it to-day, are the Vesara and Dravida styles respectively of the Silpa-Sastras (see pl. i, figs. 3 & 1). To what was the term Nagara applied?

We have already pointed out that the association of Nagara with a northern style, though by no means proved, goes back at least to the latter part of the sixteenth century. But even if this association is admitted the term northern is itself relative and Ram Raz, on page 3 of his "Essay," gives Southern India as the place where the Silpa-Sastras are found, adding on page 9 "that all these treatises were composed in the South of India,

¹ His confusion is more easy to understand when it is remembered that he wrote before the days when maps came to be generally used. Even if he had been on pilgrimage to the north he would not readily be able to picture the lay-out of his route and the country through which he passed as we can to-day.

² सर्वाणि सर्वदेशेषु भवन्तीत्यपि केचन ॥ ४४ ॥

Sarvāṇi sarvadeśeṣhu bhavantītyapi kechana ॥ 44 ॥

³ "A Dictionary of Hindu Architecture", pp. 303-316; "Indian Architecture according to Manasara-Silpasāstra", pp. 180-181.

there appears indeed no reason to doubt, for they seem to have been the standards by which the existing religious structures were reared throughout this part of the peninsula." That the Silparatna and Suprabhedagama belong to the south is certain. As evidence that the Manasara does so also we may cite the following indications which were at once revealed by an examination of those parts of the text that seemed most likely to throw light on the matter. Acharya's translation does not, unfortunately, follow the text sufficiently closely for our purpose, the name Subrahmanya in the original being, for instance, usually translated by its northern equivalent, Kartikeya.¹ Our references, therefore, are all to his volume of Sanskrit text.

Siva's principal emblem in the north is a trident, in the south an antelope and a small drum. He is described in connection with his temples in lines 119-121 of ch. xii (p. 67) and in connection with the iconography of the Trimurti in lines 74-75 of ch. li (p. 336), in both cases in his principal southern form, the trident not being mentioned.

Siva's second son is generally known as *Kārtikeya* in the north and as *Subrahmanya* in the south. In ch. ix, on the lay-out of a village, line 277 (p. 42) mentions the "temple of *Subrahmanya*" and line 390 (p. 46) the "temple of *Shānmukha*". In ch. xx on two-storied buildings (line 103, p. 157), in ch. xxxii on the iconography of attendant deities (line 12, p. 192), and in ch. xliii on temple cars (line 152, p. 291) the name *Subrahmanya* is again used. In one of these chapters, ch. xxxii (line 142, p. 197), the name *Guha* is used as well. In ch. i on ornaments (line 305, p. 333) the name *Shānmātura* is used. *Kārtikeya*, so far as we have seen, is never used. Of the names *Shānmukha*, *Guha* and *Shānmātura*, the first is and the second used to be well known in South India. The third means "having six mothers" and is thus the nearest approach we have found to *Kārtikeya*, having the same meaning though a completely different form.

Lastly we may mention as supplementary evidence, though as the work apparently purports to deal with India generally it is less definitely conclusive, that in line 12 of ch. xxxii there is a reference to the position to be assigned to the temple of *Jyeshthā*, an exclusively southern goddess², and that lines 126-162 of ch. liv on the iconography of the Śaktis (p. 359), are devoted to the *Saptamātrikas*, whose cult is also southern.

Even, therefore, if Nagara was regarded as northern, as is perhaps probable, it need not necessarily have been located north of the Vindhyas, but might have been anywhere north of the Dravida country.

¹ Acharya appears to have been seriously handicapped by lack of familiarity with southern tradition, for he translates chap. xxxii, lines 11-12 as—

11. Kārtikeya (of the seven mothers) should be (installed) in the south and Gaṇeśa in the south-west.

12. Subrahmanya should be installed in the west and the goddess Jyeshthā in the north-west.

As the names Kārtikeya and Subrahmanya are respectively the northern and southern appellations of a single deity this reading is self-contradictory. In line 11 of the Sanskrit text, however, there is no mention of either name, but only of the Saptamātrikās, the Seven Mothers, represented in southern sculptures from Pallava times onwards and the object of a well known southern cult, the proper location of their temple being, as stated, always southerly. We may also point out that the name Kārtikeya implies six mothers, not seven.

² She is regarded as the elder sister of Lakshmi.

The description, "quadrangular from the base to the top," would apply to any ordinary quadrangular building with either flat or pitched roof; and Buddhist sculptures, as well as the well known monolithic copy at Mahabalipuram (see above, p. 2, footnote 1), show that quadrangular buildings with pitched roofs of thatch were used as shrines at a very early date. So far as we know, however, the only style of architecture that can be traced back to such structures¹ is confined to Bengal and not of great antiquity.

The quadrangular temples with pitched roofs at Bhatkal on the Kanarese coast, illustrated on pls. cxliii-ccli of Cousens' "Chalukyan Architecture of the Kanarese Districts"², seem to be examples in stone of a type of wooden temple still in common use in Malabar, their walls reminiscent of the railings of Buddhist stupas. Apart from their wooden prototypes, such temples do not seem to be either numerous or early, the few described by Cousens being from the time of the Vijayanagar Empire (Cousens, p. 134). This style, therefore, is not likely to be one mentioned in the Manasara.

Nor is it likely, in view of the traditional northern associations of the term Nagara, that this style was located in the Tamil country; and very few temples fitting the definition occur there. One such at Mahabalipuram has just been mentioned. But there are two others, less well known, at the same place to which we would here call attention as we think they throw light on the small and otherwise very puzzling group of temples at Kodumbaḷur in Pudukkottai State.

A little to the north of the Dak Bungalow and not far from the Buckingham canal stands the monolithic *Valaiyāṅkuṭṭai Ratha*³ (pl. I, fig. 5), with two other monolithic rathas close together at a few hundred yards distance from it. In the former and in one of the latter the sikhara is square, in the remaining one it is octagonal. All are much less completely finished than any of the Five Rathas, especially towards the base; and small rearing lions are present in all between some of the clustered corbels. Similar lions are found in the same situation in the so-called Arjuna Ratha and beneath the eaves of its lower (but not upper) tier of cells, as also of the single tier of cells in the so-called Bhima Ratha next to it, which are on the same level. From the rest of the Five Rathas they are absent. The two rathas in which they are present are the middle pair of a row of four and may thus well have been the last to be freed from the original mass of rock from which they were carved; and the one in which they are found among the corbels is the most exquisite of them all. It is therefore likely that such lions were first introduced in the later temples of the reign of Narasimhavarman I. They reach their fullest development in the facade of the unfinished Pancha Pandava Mandapa, and are replaced in the later Pallava style (developed by Narasimhavarman II) by rearing lions of much larger size on the pilasters. The three rathas under consideration probably, therefore, belong to the latter part of the early Pallava period.

¹ See O.C. Gangoly, "Indian Architecture" pp. 23-24, fig. 36; also above, p. 2, footnote 1.

² *Arch. Surv. Ind.* (New Imp. Ser.) XLII.

³ Longhurst, "Pallava Architecture, Pt. II" *Mem. Arch. Surv. Ind.* No. 33, Pt. II, p. 28, pl. xvii, fig. a.

Though none of them bear the rearing lions on the pilasters that seem to be an invariable feature of later Pallava architecture¹, the isolated Valaiyankuttai Ratha shows one feature which is not otherwise found in temples of the early period, though very common later. This is a short and extremely stout pilaster that is used in place of carved figures to fill the space between the somewhat widely separated miniature cells (pl. i, fig. 5; compare pl. i, fig. 1). From this we conclude that this ratha at least belongs to the end of the early Pallava period. Another feature which seems at first sight to be a later characteristic is the representation, on the south side, of a lintel supported by a pair of slender pilasters in low relief, from the centre of which hangs a tassel-like ornament—a form of decoration found in the Pallava temples of Conjeevaram. But as this side is clearly unfinished it is probable that a double-arched torana was intended above it as on the north side.

At Kodumbalur in Pudukkottai State² only two of a group of three temples are standing and, though of much finer workmanship as well as in a more developed style, they bear a clear resemblance to the Valaiyankuttai Ratha. The square sikhara is somewhat broader and more elaborately carved. The upper of the two tiers of cells is replaced by four bulls, one at each corner, a form of ornamentation that seems to have been introduced in the time of Narasimhavarman II. The basement of both tiers of cells, and of the ground floor as well, is decorated with a line of conspicuous animal busts such as are generally associated with Chola temples. The lower row of cells is present and consists, as in the Valaiyankuttai Ratha, of one cell at each corner with one in the middle of each side between them, but the latter differ in being much enlarged, reaching the base of the upper tier, and in being set a little forwards from the line of the wall, as is also the middle (and only important) niche of the ground floor. In one of the two temples (pl. i, fig. 6) the simulated low wall connecting the row of cells is carried right across the middle one, thus taking on the appearance of an additional tier of eaves supporting the upper part of the middle cell, the lower part being represented only by pilasters. In this temple, but not in the other, on either side of this cell is a stout pilaster, round instead of rectangular, but otherwise corresponding to the pair of stout pilasters in this position that form one of the most conspicuous features of the Valaiyankuttai Ratha. The other pilasters are simple but have very broad square capitals. Their corbels (pl. ii, fig. 11) have wave ornament (*taranga* of the Silpa-sastras) lightly indicated on either side of a plain median band, but instead of their ends being rounded like Pallava corbels they are sloped at an angle of about 45° like those of the Chola period. These pilasters and corbels are, moreover, practically identical with those of the temple at Bahur, between Cuddalore and Pondicherry, which Jouveau-Dubreuil has described as an example of

¹ Apart from monolithic shrines too small to bear pilasters, of which there are several on the shore at Mahabali-puram, Atiranachanda's Mandapa at Saluvankuppam is the only exception with which we are acquainted and this, as Longhurst points out, is so primitive in appearance that it must be presumed to be a later modification of an early monument.

² We are indebted to Miss C. Minakshi, Research Student in the Department of Indian History of the University of Madras, for photographs of these temples.

Pallava-Chola transition. They are also remarkably like the pilasters and corbels of the Navalinga temple (Cousens, pl. lviii) at Kukkanur in the Chalukyan country, the date of which is uncertain but cannot be very widely removed from the date of that transition (see below, p. 20).

The sudden complete change in the Tamil country from the rounded corbels used by the Pallava kings to the corbels with sloping ends used by the Chola kings has never been explained, and the Bahur and Kodumbalur temples may perhaps represent an indigenous Chola tradition based on, but distinct from, that of the Pallavas immediately to the north. If, in the formation of this tradition, there has been any Chalukyan influence, these corbels, like the similar ones of the Navalinga temple at Kukkanur, can readily be derived from the form of Chalukyan corbel shown in fig. 8 of pl. ii. But as this would involve considerable simplification of design, direct development from simpler corbels of similar form is more probable.

The date of the Kodumbalur temples is still a matter of controversy. As one of them bears an inscription referring to the conquest of Badami by the builder's grandfather and the slaying of the Chalukyan king by his father, it is tempting to see in them not only the influence of Pallava architecture through the Valaiyankuttai Ratha but also that of Chalukyan temples such as those just mentioned, which also have square sikharas. This would be quite possible if the reign of Vikramakesari, the builder of the Kodumbalur temples, was from about 950-970 A.D. as suggested by Nilakanta Sastri,¹ though a century earlier would seem to fit better. And the much earlier date suggested by Heras² is just possible if these temples are a development of the Valaiyankuttai Ratha, itself evidently a development of the rathas known to have been made by the very king with whom, according to this theory, Vikramakesari's father should be contemporary, though perhaps somewhat younger.

But the Nagara style cannot well be identified with any such small group of temples, and we must probably in any case look for it further north.

Quadrangular, flat roofed temples were also built in very ancient times, and some from the Gupta period still exist in northern India.³ It was presumably from such temples that the Kadamba style of temple architecture arose (pl. i, fig. 2), a style which also fits the definition of Nagara, though later it combined with the neighbouring Chalukyan to produce the Hoysala style. In Moraes' "Kadamba Kula" the eighth chapter of part vii "Internal History" is devoted to architecture. Definite evidence of date seems unfortunately to be lacking, especially for the earlier temples. A small flat roofed Jain basti

¹ "The Kodumbalur Inscription of Vikramakesari." *Journ. Or. Res., Madras*, 1933, pp. 1-10, 1 pl.

² "The Victory of Bhuti Vikramakesari over the Pallavas." *Journ. Roy. Asiatic Soc.*, 1934, pp. 33-34.

³ See Cunningham, "Report of a Tour in the Central Provinces in 1873-74 and 1874-75." *Arch. Surv. Ind. Rep.* IX, 1879, pp. 41-47, pl. x-xi; and "Report of Tours in Bundelkhand and Malwa in 1874-75 and 1876-77." *Arch. Surv. Ind. Rep.* X, 1880, pp. 60 and 81-89, pl. xx and xxii-xxx; Gangoly, "Indian Architecture" pl. xxiv and xxiv (a); Coomaraswamy, "History of Indian and Indonesian Art," fig. 151.

at Halsi (fig. 26¹), built of enormous masses of stone is, he thinks, "probably the one said to have been built by the Kadamba King Mrigesavarmma, who lived in the fifth century of our era." The first stage in the evolution of a tower is seen in a group of temples at Kadaroli (fig. 27), built in the bed of the Malaprabha. "They are small square buildings, each surmounted by a tower with the *kalasha* on top. This tower is a perfect pyramid marked with horizontal stages that have the appearance of steps. These steps are quite plain." In the Hattikesvara temple at Halsi, "On either side of the doorway there appear for the first time those perforated screens or pierced stone windows that later on became a permanent feature of all Kadamba temples." In the towers of the Hindu temple and Jain basti at Yalavatti (figs. 30 and 31) the horizontal stages "are for the first time divided into rectangular parallelopipeds; but as yet they are uncovered by ornamental details. * * * * * Another new feature is that the walls of this temple have a horizontal band running in the middle, on which are carved a few geometrical designs. These structures probably belong to the later Kadamba period, for they differ very little from the monuments built in the time of Jayakesi II, the Goa Kadamba king. The Ramesvara temple at Halsi (fig. 28) shows another motif that was developed at this period. The tower * * * has now a projection added to it, having in front an arch with a simulated cell" on which the horizontal stages are continued. In the Varaha-Narasimha temple at Halsi (figs. 32 and 33) this projection has a window on each side in addition to the one in front, and pierced stone windows are inserted above the overhanging eaves. "The perfection of the Kadamba style was evidently reached in the Sri Kamala-Narayana temple at Digamve" (figs. 34 and 35), built in the middle of the twelfth century. "It is a typical example of a temple built in the Kadamba style which had come under the Hoysala influence." But the transition from Kadamba to Hoysala style is best seen in the Lakshmidēvi temple at Dodda Gaddavalli (fig. 39), founded in the reign of the Hoysala king, Vishnuvardhana.² "The most striking thing one notices about this temple is that unlike the Hoysala towers its vimanas are not marked with ornamental details. Further they are shaped like perfect pyramids as those in the Kadamba temples, and are marked with horizontal stages, the bold outlines of which greatly attract the eye. Finally it is not built on a raised platform as the Hoysala temples. Among the details in this temple that are also common to the Hoysala shrines are the elaborately carved doorways, flanked by Vaishnava door-keepers, the ceiling with the lotus panel and the multiplication of shrines."

We have omitted all reference to Moraes' account of the evolution of style in the pillars of Kadamba temples, not because we consider this of less importance, but because without a much more intimate knowledge than we possess of the temples in question we are unable to utilize it in our study of the vimana, with which alone this paper is

¹ All references to illustrations of Kadamba temples relate to Moraes' "Kadamba Kula."

² In A.D. 1113, according to Narasimhachar. See "The Lakshmidēvi Temple at Dodda Gaddavalli," *Mysore Archaeological Series—Architecture and Sculpture in Mysore*, No. iii (Bangalore, 1919), p. iii (introductory note).

immediately concerned. But with regard to the vimana his figures show a feature which is of some importance to our subject, though he does not refer to it in the text. This is the square sikhara which, though rudimentary or absent not only in the apparently primitive Kadaroli temples but also in the presumably much later Varaha-Narasimha temple at Halsi, crowns the tower and bears the kalasa finial in the Ramesvara temple at Halsi and in the Hindu and Jain temples at Yalavatti, though in the latter the kalasa is missing. It is also present in the Kadamba-Hoysala transitional Lakshmidēvi temple at Dodda Gaddavalli, and was evidently a frequent feature of Kadamba towers.

Stepped pyramidal towers of similarly small height, often with their horizontal stages decorated in Kadamba fashion with a series of vertical projections, but with sikhara when present of more circular shape, are not uncommon over the vestibules of shrines of Vesara temples, as for instance at Bhuvanesvara in Orissa. But as vimanas they seem to be confined to the Kadamba style of temple, and in these their sikharas when present seem always to be more or less completely square. And such vimanas therefore fit the definition of the Nagara style "quadrangular from the base to the top".

A very different type of temple found in the neighbouring kingdom of the Chalukyas also, however, fits this definition and its history must, therefore, now be considered with Cousens' "Chalukyan Architecture of the Kanarese Districts"¹ as our source of information. One of the most remarkable features of the architecture of this kingdom is the existence in it of temples in the northern or Vesara style, side by side with others resembling in their tiers of miniature cells those of the southern or Dravida style, with which they have consequently been classed. The earliest Chalukyan temple of which the approximate date has been ascertained is that of Mahakutesvara, about three miles east of Badami, which seems certain to have been built before 601 A.D. It may even have been built as early as the reign of Pulakesin I which is believed to have ended about 566 A.D. Its courses of miniature cells surmounted by an octagonal cupola-shaped sikhara (pl. ii, fig. 1) naturally suggest Pallava affinities, and a rock inscription at Badami which speaks of "the Pallava, foremost of kings" is generally taken to show that the country must have been under Pallava rule for a time at that early date—though it seems to us that it might equally well refer to the known conquest by Narasimhavarman I in 642 or thereabouts². As, however, the earliest existing Pallava temples of similar form were made by Narasimhavarman I, who ruled from 630-668 A.D. we are forced to the conclusion that, though the Pallavas may have derived their style from the Chalukyas, it is most unlikely that the Chalukyas derived their style from the Pallavas as is generally held. The latter is, indeed, completely impossible unless it be from Pallava

¹ *Arch. Surv. Ind.* (New Imp. Ser.) Vol. XLII, Calcutta, 1926.

² Longhurst ("Pallava Architecture" Pt. I., *Mem. Arch. Surv. Ind.*, No. 17, Pt. I, p. 5) points out that this inscription includes the word *Mahāmalla*, by which Narasimhavarman I, was also known. This is strongly suggestive evidence but is not conclusive as any conqueror might be figuratively described as a great wrestler with his enemies.

temples earlier than any that now remain¹. And as, after the death of Pulakesin II in A.D. 642, the Chalukyan "country was invaded and occupied for some thirteen years by the Pallavas", during the reign of Narasimhavarman I, the very king who made the earliest existing Pallava temples of this form, the possibility that the Pallava style was derived from some of the early temples of the Chalukyan kingdom receives strong circumstantial support.

But has borrowing in either direction necessarily to be assumed? The only satisfactory explanation of the form of such temples yet put forward is that they are modelled on pyramidal Buddhist *vihāras*; and Buddhist remains are more numerous outside the Pallava country than within it. Narasimhavarman's use of miniature cells for decoration is not confined to his pyramidal temples, but is shared by those with barrel roof, rectangular and apsidal, as well as by temples in the Chalukyan country; and all his miniature cells are of one storey whereas the corner ones of the uppermost terrace are two-storied in both the early Chalukyan temples in which they survive, the other four being flat with a window-ornament on the corresponding face of the *sikhara* above. Moreover Führer² describes the remains at Rampur in the Bareilly District of the United Provinces, of "a large two-storied Saiva temple, built of carved brick and dating from the first century B.C.³ * * * standing on a raised platform measuring 109' 0" × 107' 2" × 12' 6". The first terrace measures 78' 4½" × 72' 11" × 11' 6" and is surrounded by nine cells on each side; whilst the second terrace measures 55' 7" × 53' 7½" × 11' 0" and is surrounded by seven cells on each side but the west, where a long flight of steps leads up to the entrance of the sanctum, the exterior dimensions of which are 48' 6" × 45' 10". From these dimensions it is evident that the temple must have been about 70 feet in height above its own floor, or 105 feet above the country. The foundations of the temple are built of very large bricks, 18" × 12" × 3", and the exterior walls are enriched by a display of ornamented bricks and terra-cottas illustrating scenes from the life of Siva. The variety of patterns is infinite, and many of them are bold and effective."

From this it appears that temples of stories diminishing in size from below upwards, each surrounded by cells, were not unknown at a very early date and very far north. If this correctly indicates the age and distribution of such temples, both are much greater than has generally been supposed, and more or less similar temples in stone might well appear in different places independently of one another.

¹ That there were earlier temples of some sort is certain, for Mahendravarman I has left an inscription in his cave temple at Mandagapattu in S. Arcot District (*Epigraphia Indica*, XVII, pp. 15-17) which clearly implies that temples were then ordinarily built of "bricks, timber, metals and mortar". But none of them survive, though they are represented by stone pillars, one of them inscribed, built into the *Paurṇamī maṇḍapa* of the Ekambaranatha temple at Conjeeveram (Jouveau-Dubreuil, "Conjeeveram Inscription of Mahendravarman I", Trichinopoly, 1919). But this only pushes the date back one generation. And if such old temples existed in the Pallava country it is probable that they existed likewise in other parts of India also. It is thus impossible to bring them into the argument, though their probable if not certain existence must never be forgotten.

² Progress Reports of the Archaeological and Epigraphical Branches of the North-west Provinces and Oudh Circle for 1891-92, p. 2.

³ The date of this temple is indicated by coins found within it.

The only Chalukyan temple with octagonal sikhara described by Cousens, other than the Mahakutesvara, is that of Malegitti-Sivalaya at Badami, the date of which is not indicated by any inscription. Cousens says (pp. 52-53) "It is of the same style as the Meguti and the other older temples at Aihole, and of the same class of work as those at Mamallapuram, only that its outline and general design have a much older appearance than in the latter." It closely resembles the Mahakutesvara temple in its whole style, as does also the more ruinous Meguti temple at Aihole, built in 634 A.D., the sikhara of which, together with the greater part of its upper courses, is unfortunately missing.

Of the other ancient temples at Aihole, Cousens regards that of Lad Khan as even older than the Meguti temple. But in spite of its massive structure and of the simple form of the corbels on its exterior, its inside pillars bear corbels similar, indeed, to those found apparently in most of these temples, but of an ornate form that demands a longer explanatory history than any in the Mahakutesvara, Malegitti-Sivalaya or Meguti temples; and its elaborate pierced stone windows are in marked contrast to the simpler ones of those temples. Even if it is older it cannot therefore be considered as architecturally a forerunner of the Meguti temple.

The form of corbel to which we refer need not necessarily have been evolved in the Chalukyan country, for it may have come, like the Vesara vimana, from outside. But the method of its evolution is clear and can be actually traced in the temples with tiers of cells that we are specially considering. And we wonder whether it is not more than a coincidence that of the two Chalukyan temples in which the lintel of the doorway is prolonged beyond the jambs, both of which are in Vesara style, the Kadsiddhesvara at Pattadakal (Cousens, pl. lii) is small and apparently simple throughout—unfortunately its detail is not very clear in Cousens' figures—while temple No. 9 at Aihole (Cousens, pl. xvi)¹, though otherwise richly carved, has all its pillars and corbels of a very simple type. Cunningham² mentions such doorways among the characteristics of temples of the Gupta period, and points out that "This peculiarity was no doubt derived from the original door-frame of wood, in which the prolongation of the lintel is a matter of necessity." The severely plain Huchchimalli-Guḍi at Aihole is perhaps still older. For on p. 20 of his "Architectural Antiquities of Western India" (India Society, London, 1926) Cousens says of it "the interior of the temple is perfectly plain, excepting the shrine doorway, which follows the style of some of the cave doorways."

The Mahakutesvara and Malegitti-Sivalaya temples, and presumably the more ruinous Meguti temple also, are characterised by their octagonal sikhara, their comparatively plain and simple pillars and pilasters and their simple corbels. The sikhara has window ornaments on four of its eight sides and is surrounded by eight miniature cells—those under the window ornaments flat topped, those at the corners two storied—which partly hide its base and the short and not very strongly marked neck below it.

¹ Also fig. 2 of his "Ancient Temples of Aihole." *Ann. Rep. Arch. Surv. Ind.*, 1907-08, p. 198, which brings out the prolongation of the lintel very clearly.

² "Report of a Tour in the Central Provinces in 1873-74 and 1874-75" *Arch. Surv. Ind. Rep.* IX, 1879, p. 43.

The pillars are square and massive. The simplest corbels seem to be those over the pillars of the porches of the Mahakutesvara and Meguti temples (pl. ii, fig. 5), which are rectangular in profile but apparently with the corner slightly rounded, those of the porch of the Malegitti-Sivalaya being more evenly rounded with a slightly raised band along the middle (pl. ii, fig. 6), and those in the interior of this temple similarly rounded but with light wave ornament (*taranga* of the Silpa-sastras)—whether with or without a raised median band Cousens' diagrammatic section, which is all we have to go upon, does not show (compare pl. ii, fig. 7). As to the form of those in the interior of the Mahakutesvara temple we unfortunately have no information. The corbels over the pilasters of the Mahakutesvara temple, like those over its porch pillars, seem to be approximately rectangular; but the details visible in the figures of this important early temple are tantalisingly meagre. Those over the pilasters of the Meguti temple and over most of those of the Malegitti-Sivalaya are evenly rounded with light transverse wave ornament on either side of a plain and slightly raised median band (compare pl. ii, fig. 7). But those over the pilaster on the north-east corner of the latter temple, and over the next one on each side of this, are rectangular—much as they appear to be in the Mahakutesvara temple, but with two clefts below crossing one another at right angles. This is a form of corbel with which we are not otherwise acquainted. Another feature of the Malegitti-Sivalaya temple, of particular interest, is the double-arched torana springing from the mouths of a pair of makaras that is found over some of its niches and plain windows of pierced stone.

If the Pallava king Narasimhavarman I borrowed the storied form and miniature cells of his principal temples from the Chalukyas, he certainly did not need to look to them for his rounded corbels, often with light transverse wave ornament (sometimes on either side of a plain and slightly raised median band), nor for the double-arched torana springing from the mouths of a pair of makaras which he used in decorating his Durga temple; for both were used in his own country by his father Mahendravarman I, the former in Trichinopoly and Siyamangalam, and the latter in Siyamangalam and Dalavanur.¹ The former can so naturally be derived from simple wooden originals that they might easily have appeared independently in different places. But the latter cannot be so readily explained, for it is an elaborate and conventionalized form of ornament presenting a remarkable similarity of detail in the two kingdoms. The Malegitti-Sivalaya seems to be the latest of the three Chalukyan temples we have been discussing; so if borrowing occurred—and here we see no possible alternative—it can in this case only have been from Pallava by Chalukya and it may well have resulted from the recorded invasion of the Pallava kingdom by the Chalukyas in Mahendravarman's reign.²

¹ Jouveau-Dubreuil "Pallava Antiquities" I (Probsthain & Co., London, 1916), pls. xvi, xviii and xix; "Archéologie du Sud de l'Inde" I (*Ann. Mus. Guimet*, Bibliothèque d'Etudes XXVI), pl. xxiii.

² Cousens' illustrations of the Mahakutesvara temple, though they show niches without the double arched torana, are unfortunately insufficient to prove that no examples are to be found in it. Should this occur they would antedate the reign of Mahendravarman I, in which case the more probable presumption would be that the Pallavas and not the Chalukyas were the borrowers. This would help to confirm the suggested earlier supremacy of the Pallavas at Badami (see above, p. 12).

The free standing temples of Narasimhavarman I (pl. i, fig. 4), all of which are monolithic, though very similar to the three early Chalukyan temples that we have been considering, lack their closed vestibule with its pierced stone windows but are otherwise clearly more advanced in style. The octagonal *sikhara* of the pyramidal ones has a window ornament on each of its eight sides and is raised on a longer and narrower neck well above the surrounding cells which, like those of the lower tiers, are all of one storey only; and this raising greatly enhances its effect. The upper stories are relatively higher and have images carved in their niches as on the ground floor. And fluted circular pillars with lion bases are introduced. The subsequent development of this southern style forms the subject of Volume I of Jouveau-Dubreuil's "*Archeologie du Sud de l'Inde*" published in 1914 and need not be further elaborated here, for there can be no possible doubt that it is to this style that the term *Dravida* of the *Silpa-sastras* was applied.

But the subsequent development of style in temples of superficially similar form in the Chalukyan country was on different lines, and from this time onwards they are characterised by having the *sikhara* square instead of octagonal. They therefore fit the definition of the *Nagara* style and thus claim our further attention. That they cannot rightly be classed as *Dravidian* has been briefly pointed out by Jouveau-Dubreuil, on account of the form of their pillars, on page 179 of his work just mentioned.

The next Chalukyan temple of this series that is dated by an inscription is the *Sangamesvara* at *Pattadakal* (pl. ii, fig. 2) built by *Vijayaditya-Satyasraya* who reigned from 696-733 A.D. With this, on account of their almost identical style, must be classed the ruined temple on the northern fort at *Badami* and the shrine—the earliest part according to *Cousens*—of the main temple of the *Bhutanatha* group at the same place. These temples all have a simple square pyramidal tower surmounted by a broad square *sikhara* with a window ornament on each side. The *sikhara* is raised on a short but very distinct neck above the surrounding cells, which are reduced to one on each side in the *Sangamesvara* temple, even this one being much reduced in size in the temple on the northern fort at *Badami* and so far as we can see being absent in the *Bhutanatha* tower. The towers of the two *Badami* temples are relatively tall and slender and that of the *Bhutanatha* at least has had a shrine in its lowest storey, *i.e.*, on top of the ground floor. Shrines thus elevated usually indicate that a temple has been Jain. The lower tiers of cells are also much reduced in size in the former of these two temples, much less so in the latter and in the *Sangamesvara*. The ground floor of the former of the two *Badami* temples is severely plain and that of the *Bhutanatha* is not visible in *Cousens*' figure. That of the *Sangamesvara* has figures carved in the niches and the double arched *torana* is present, probably in a somewhat modified form—unfortunately the figure is not clear as to its details. Of the inner hall of the oldest part of the *Bhutanatha* temple *Cousens* says (page 55) "The pillars are of the same massive style as those in the temple of *Malegitti-Sivalaya*," but his figure (pl. xxxiii) shows them to be definitely more advanced in ornament, while the wave ornament on either side of the very

prominent middle portion of their corbels is deep and conventionalised as in the corbels of the temple of Lad Khan, etc., referred to on p. 14 above.

These three relatively simple temples with square sikhara are evidently derived from temples like the Mahakutesvara and Malegitti-Sivalaya, the octagonal sikharas of which bear window ornaments only on alternate sides, and they thus connect the latter with the numerous Chalukyan temples of later date in similar but more elaborate style, in practically all of which the sikhara is essentially a square though in most its outline is somewhat modified.

A square sikhara, as pointed out above (p. 12) occurs also in a number of Kadamba temples. But if one has been inspired by the other it is probably the Kadamba by the Chalukyan; for the Chalukyan examples have simple and definite window ornaments, whereas in the figures we have seen of Kadamba examples these ornaments appear more conventionalised and less window-like. Even in temples with octagonal crowning sikhara, whether Chalukyan or Pallava, the miniature cells at the corners have square sikharas so that the making of the crowning sikhara of the temple in the same form might easily occur; and as already pointed out above (p. 8) this has happened in two monolithic rathas at Mahabalipuram, both probably of later date than those made by Mahendravarman I.

In their later temples at Conjeeveram the Pallavas seem also to have departed at times from their octagonal sikhara in favour of round or square. But such sikharas are never broad as in the temples just described. They retain instead the proportions of the more typical octagonal ones which seem, moreover, invariably to have been used in the larger vimanas not only by the Pallavas but also by their successors the Cholas, and thus always to have been those most characteristic of the southern style.

In the Chalukyan country on the other hand, the square sikhara, once introduced, was permanently adopted though it underwent considerable development as time went on.

The next temples in this series are those of Virupaksha and Mallikarjuna at Pattadakal, built by the queens of Vikramaditya II who seems to have reigned from about 733-746 A.D. In these a decorative projecting gable is added to the front of the tower, a development unknown in the Tamil country. The latter temple is unique in having a round instead of a square sikhara resembling, however, a depressed cupola—not an amalaka. The richly decorated pillars, pilasters, corbels, pierced windows, and decorative detail generally, also resemble those of the above described Chalukyan temples, of which they form a natural continuation, much more closely than they do the temples of the Tamil country from which, on account of their tiers of miniature cells and certain inscriptions mentioning a craftsman from the south, they have been regarded as having been copied. These inscriptions are on the Virupaksha temple, and there is also one on the neighbouring Papanatha temple that contains a similar reference.

In spite of the miniature cells bordering the roof of the Papanatha temple, that it belongs to the Vesara series is proved not only by the form of its tower but also by the

motif with which its walls are decorated. This differs from all motifs that we know of on temples of the series we have been discussing, though it may not improbably have suggested the somewhat similar one used on the Kallesvara temple at Kukkanur and most other temples of later date; but something very similar is seen on the small Vesara temple in the foreground of the lower photograph of the Mahakutesvara temple on Cousens' pl. xxvi¹. The Papanatha temple is believed to be slightly earlier than the Virupaksha, but the presence of a projecting gable in front of its tower, similar to (though much shorter than) that of the Virupaksha, indicates that it is unlikely to be much earlier.

The inscription on the Papanatha temple may be literally translated thus:—

Hail! *Chattara-Rēvadi-Ovajja* of the *Sarvasiddhi-Āchāryas*, constructor in the south, acquainted with the secrets of the *Śrī Śilēmuddas*².

According to Fleet³ *śīle* is the Kanarese form of the Sanskrit word *śilā* meaning stone, and *Mudda* is a Jamgam or Lingayat name. From this it appears that *Chattara-Revadi-Ovajja* of the *Sarvasiddhi-Acharyas* had been a builder in the south, presumably (though not necessarily) in the Tamil country, and was also versed in the secrets of certain well known Kanarese stone-masons. Presumably he was the architect of this temple but even if, as is generally assumed, he was himself a Tamil, he contributed to it nothing from the Dravidian style that was not already in regular use in the Chalukyan country, its only new feature being its combination of elements from both the local styles which previously seem to have influenced one another remarkably little.

The two inscriptions on the Virupaksha temple relating to a craftsman from the south may be literally translated as follows:—

1. No excommunication from caste of the wisdom-possessing people of the land who have attained divine favour, having given the fillet called *Mūme-Perjjerepu* and the name *Āchārya* of the three worlds to *Śrī Guṇḍa* of unimpeded course of action, the *sūtradhāri* who made the temple of the queen of *Vikramāditya*, the favourite of the world; immunity to those united to the guilty one * * * *

¹ Also on the exterior of the Visvakarma (Buddhist) cave at Ellora. See Wauchope "Buddhist Cave Temples of India", pl. xlvii.

² Line 1.—Svasti Śrī-Śilēmuddara.

„ 2.—marmān Sarvasiddhi—Ā—

„ 3.—chārjya (ryya) ra Chattara-Reva

„ 4.—di-Ovajjar teṅka—

„ 5.—ṇa diṣe māḍidor.

³ *Indian Antiquary*, x, p. 171, footnote 58.

⁴ Line 1.—Svasti Vikramāditya Śrī—

„ 2.—prithivīvallabha-mahādēvi—

„ 3.—yarā dēgulamān ma(mā)ḍida sūtradhāri—

„ 4.—Śrī-Guṇḍan anivāritāchāri—

„ 5.—ge Mūme-perjjerepu paṭṭamu Tribhuvanāchāri—

„ 6.—yendu pesar-ittu prasādan-geydā pri(pri) dhi(thi) viyā—

„ 7.—binnāṇigaḷa baḷḷigavārtte illa dōsiga—

„ 8.—na kavardduḷidorge pariḥa [ra*]m

2. Hail ! Let it be known that these are the names of the *Āchārya* who averted the excommunication of the wisdom-possessing people of this district after they had given *Mūme-Perjjeṇepu* to the *sūtradhāri* who made this temple of *Lokeśvara* of *Śrī Lokamahādevī* of *Vikramāditya*, the worshipful one who thrice conquered *Kānchi*—Hail ! *Śrī Sarvasiddhi-Āchārya*, abode of all virtues ; creator of many cities and houses ; perfect and refined in conversation ; houses, palaces, vehicles, seats, couches, his jewelled crown and crest jewel ; the *sūtradhāri* of the southern country ¹.

It is evident from the second of these inscriptions that the subject of them, whose name the first shows to have been Sri Gunda, definitely belonged to the south ; but again we can find nothing distinctively Tamilian in the structure of the temple. Monier Williams in his Sanskrit-English dictionary gives carpenter, artisan, etc., as the meanings of *sūtradhāri*, and Fleet regards a *sūtradhāri* as an assistant to the *sthapati* or master-craftsman, in which capacity he would presumably take little or no part in the designing. But it seems almost impossible that such glowing terms as are used in these inscriptions could be used of anyone thus subordinate. Current tradition associates the word with wearers of the *sūtra* or sacred thread of craftsmen's castes ; and the *Vāchaspatya* and *Śabdakalpa-druma* both apply it to one born of a Sudra woman by Visvakarma, the mythological founder of the science of architecture. We therefore interpret "*sūtradhāri* of the southern country" as meaning "architect of the southern country" and it is difficult to see from what southern country an architect could have come unless it was the Tamil country. That Tamil craftsmen were employed under Chalukyan kings receives confirmation from the name *Mahēndrapallavāchāri* of the engraver of an inscription in the Gooty Taluk of the Anantapur District (No. 343 of 1920) from the reign of *Satyāśraya Śrī Prithvīvallabha*, a well-known name for both Vikramaditya II and his father Vijayaditya. The vimana of the Virupaksha temple perhaps resembles those of Pallava style in being more gracefully slender than its Chalukyan predecessors. But if Sri Gunda was a Tamil architect taken to Pattadakal by Vikramaditya, on account of the latter's recorded admiration of the Conjeeveram temples, it is remarkable that the temple he built is so completely Chalukyan. Nothing is recorded as to the cause of the excommunication mentioned. If, however, Sri Gunda was a royal favourite brought in from a distance, it

¹ Line 1.—Svasti Śrī Vikramāditya—

„ 2.—bhaṭārar=m mūme Kānchiyān=mūme parā—
 „ 3.—jisidorā Śrī Lokamahādeviyarā—
 „ 4.—f Lōkēśvara māḍida sūtradhāriḡe
 „ 5.—mūme-perjjeṇepu geyda-balikke f visha—
 „ 6.—yada vinnānigalā baḷḷigavartteyan=uḷi.
 „ 7.—pida āchāriya pesar=ivan=aṛimi.
 „ 8.—Svasti Śrī-Sarvasiddhi-āchāri Sakalaguṇāśraya.
 „ 9.—aneka-rapu (pura)vāstu-pitāmahan Sakala-nishkala-sū—
 „ 10. kshmatibhāshitaṇ va(vā) stu-prāsāda-yānāsanaśa(śa) ya—
 „ 11. na-maṇimakuṭa-ratnachūḍāmaṇi te[m]kaṇa di—
 „ 12. śeyā sūtradhāri.

seems not unlikely that the local "wisdom-possessing people," presumably skilled craftsmen, may have "united with the guilty one" against him, offering him, however, abject apology when they saw that his "course of action" remained "unimpeded" while they suffered excommunication. How "the guilty one" was dealt with we are not told.

The Navalinga and Kallesvara temples at Kukkanur show the next stage of development, the setting forward of the middle portion of each face of the vimana, probably in imitation of a similar feature found in all Chalukyan vimanas in Vesara style illustrated by Cousens, even the earliest of them. In the Navalinga vimanas, which are richly decorated and fully retain the characteristic tiers of miniature cells, this setting forward of the middle of each face seems to be confined to the sikharas, though of this we do not feel absolutely certain and the sikhara is perhaps the part of the tower where one would least expect it. But in the vimana of the Kallesvara temple, which though less richly decorated appears to be somewhat later, having the stories less strongly marked, it extends from top to bottom. The corbels above the pilasters on the walls of these temples, instead of being rounded as in earlier temples of the series, have their ends sloped at an angle of 45° . They have light wave ornament on either side of the usual median band, and both they and the pilasters below them closely resemble those of the temples at Kodumbalur and Bahur in the Tamil country mentioned above (pp. 9-10). The pillars (Cousens, pl. lvi) are, however, clearly Chalukyan. From the position of these temples in the evolutionary series their date cannot differ very widely from the approximate date, 850 A.D., of the similar change which occurred in Dravida temples when the Pallavas were superseded by the Cholas, concerning the possible significance of which see above, p. 10.

As time went on the temples of the Chalukyan series we are describing seem to have absorbed more and more completely the originally distinct Vesara series of the same kingdom, and apparently also the series characteristic of the adjoining Kadamba kingdom briefly described above (pp. 10-12), thus giving rise to the remarkable style of the Hoysala kings.

From what has been said it is evident that in the adjoining kingdoms of the Kadambas and Chalukyas there existed three different styles of temple architecture: the Vesara style widely distributed in northern India and early adopted by the Chalukyas but never, so far as we know, by the Kadambas; and two other styles, one in the Kadamba kingdom and the other in the Chalukyan, both of which fit the Silpa-Sastra definition of the Nagara style "quadrangular from the base to the top." As already indicated (pp. 8-10) we know of no other such style to which the Silpa-Sastras are likely to have referred. Unfortunately we know of no definite indication as to which of these styles was so designated, or whether it was regarded as a term sufficiently general to include both. But it seems clear that anyone of sufficiently wide knowledge to write a treatise like the *Manasara*, if personally acquainted with the style of either kingdom could not fail to

know something of that of the other also, though if he wrote only from hearsay—and the reference to the three main styles is very brief and entirely lacking in information as to differences in detail—he might easily lack knowledge of the differences between the two.

It seems to us, however, extremely likely that the *Manasara* was written in the Chalukyan kingdom, and that if Vikramaditya II brought Tamil architects there it was probably written by one of them, perhaps even by Sri Gunda of the Virupaksha temple inscriptions.

Acharya gives 500–700 A.D. as the probable age of the *Manasara*, on the assumption that at some period between these dates the various types of building described had come into existence before the end of the period of unification of the greater part of India under the Gupta dynasty, when the very great difficulty of travel between different parts possessing different styles of architecture would presumably be at a minimum. But an architect coming from the south with a knowledge of Pallava buildings, at the time of Vikramaditya II, would find in the neighbourhood of the Chalukyan capital at least three temples—the Mahakutesvara, Meguti and Malegitti-Sivalaya—the octagonal sikhara and simple rounded corbels of which might well lead him to class them with Pallava temples as of Dravida style; others with square sikhara and in some cases at least pillars and corbels unlike anything Pallava, which fit the *Manasara* definition of the Nagara style; and many with their vimanas crowned with the circular amalaka in Vesara style. And to whom would the idea of preparing such a treatise as the *Manasara* be so likely to occur as to a foreigner to whom two of these styles were new and strange? The actual number of Chalukyan temples with square sikhara that now survive from the time of Vikramaditya II or before is, it is true, very small. But we take for granted that the temples of every early period that have perished outnumber those that have survived, often very considerably.

In this connection it is also perhaps significant that the *Manasara* includes in the Vesara style a form of temple that can only be interpreted as apsidal, for the only apsidal temple in this style that we know of is the “Durga” at Aihole.

The *Manasara* is, moreover, much more concerned with the correct planning of villages, installation of images, selection of materials, etc., than with the three styles of architecture, which are only mentioned in one short passage. If Sri Gunda was the author it is not unlikely that it was mainly to superintend such matters that he was employed by Vikramaditya, in which case it is less surprising that the temple he built is in local style. The following of this style may even have been a matter of political importance in view of the hostility of local craftsmen (see above, pp. 19–20).

That no information is given in the *Manasara* regarding differences in pillars, etc., in the three styles is remarkable, for the inclusion under two of them of buildings of two very different forms, pyramidal and apsidal, proves that form alone was not regarded as their criterion, as might otherwise have been supposed. But these differences, though they were already definite between the Dravida style on the one hand and the two Chalukyan styles (Nagara and Vesara) on the other, would be less obvious at the

time of Vikramaditya than they are now with later developments to reinforce them, especially if no return visit by the author to the Pallava country was made. If this is the reason why there is no mention of such differences, the style prevalent in the country where the treatise was prepared would obviously form the basis of its descriptions; and a careful study of the Dravidian and Chalukyan pillars of the time, comparing the results with the text of the Manasara, may quite possibly remove all doubt as to the Manasara's country of origin. But the forms of pillars are so varied that any such study will have to be much more detailed and critical than any that has yet appeared.

The Kadamba temples seem to have been much less ambitious than the Chalukyan and to have followed the Chalukyan fashion in the introduction of the square sikhara (see above, p. 17), and presumably also of the projecting gable in front of the tower and the setting forward of the middle portion of each face; and an architect at the Chalukyan court may easily have regarded them as insufficiently important for separate designation in his treatise. In any case it seems clear that the term Nagara should be applied to the series of Chalukyan temples with Dravidian affinities which, as already pointed out by Jouveau-Dubruel¹ are definitely not Dravidian. And among these we think should now be included the three early ones which alone could legitimately be classed as Dravidian, since it is evident that historically they form the commencement of this Chalukyan series, and it is quite uncertain whether they have any direct connection with the Pallava series.

The term Dravida should thus be confined to the style that developed and is still followed in the Tamil country, the earliest surviving remains of which are Pallava; the term Vesara belongs to the northern style, hitherto unfortunately called Nagara by recent writers, in which the vimana is crowned by a circular amalaka; and the term Nagara applies to the series of Chalukyan temples which, owing to a strong superficial resemblance, have been wrongly included by most recent authors among the Dravida.

SUMMARY OF RESULTS.

I. According to the Silpa-sastras, including the Manasara and Suprabhedagama, the three main styles of temple architecture at the time when they were formulated were—

- A. *Nāgara*, in which the vimana was quadrangular throughout.
- B. *Vēsara*, in which the vimana was crowned by a circular sikhara above the neck.
- C. *Drāviḍa*, in which the vimana was crowned by an octagonal or hexagonal² sikhara above the neck.

The Manasara adds an apsidal form in the case of both the Vesara and the Dravida styles, but not of the Nagara (pp. 1-4).

¹ Archéologie du Sud de l'Inde I. p. 179.

² The Suprabhedagama omits the hexagonal form and we know of no surviving example of it.

2. The Dravida style is that of the Dravida country, the earliest existing remains of which are Pallava. Several apsidal temples in this style are known (p. 2).

3. The Vesara style is that in which the sikhara over the vimana has the round form of an amalaka, to which unfortunately the term Nagara has been applied by recent authors. There is an apsidal temple in this style at Aihole in the old Chalukyan kingdom. The origin of the term Vesara is obscure. There are no grounds for connecting it with the Telugu country (pp. 2, 6 and 21).

4. The Nagara style is a style which developed in the Chalukyan country, a style regarded by most recent authors as identical with the Dravida style to which superficially it bears a close resemblance (p. 22). The definition of Nagara may have been intended to apply to the Kadamba style also (pp. 10-11, 20 and 22). The origin of the term is obscure, but seems likely to have had associations with something northern (p. 6). The location of this style in the Chalukyan country is northern in relation to that of the Dravida style, whence there is reason to suppose that the author of the Manasara probably came (p. 7).

5. The chronology of Nagara temples in the Chalukyan country and of Dravida temples in the Pallava country is shown in the following table, in which relevant political events and the names of relevant kings are included in italics. The names of temples, the dating of which is based on structural evidence only, are enclosed in brackets.

Date A.D.	Chalukyan.	Pallava.	Date A.D.
550-600	Mahakutesvara.		
609-642	<i>Pulakesin II. Besieged Mahendravarmān I in Conjeevaram. Finally defeated and slain by Narasimhavarmān I.</i>	<i>Mahendravarmān I. Cave temples and an inscribed stone pillar from a structural temple of this reign are known.</i>	600-630
634	Meguti, Aihole.	<i>Narasimhavarmān I. Cave and small monolithic temples at Mahabalipuram.</i>	630-668
?	Malegitti-Sivalaya, Badami.		
655-680	<i>Vikramaditya I re-established Chalukyan rule in the kingdom of that dynasty and conquered Conjeevaram.</i>		
696-733	<i>Vijayaditya. Sangamesvara, Pattadakal. Bhutanatha and ruined temple at Badami.</i>	<i>Narasimhavarmān II. Shore temple, Mahabalipuram; Kailasanatha, Conjeevaram.</i>	690-715
733-746	<i>Vikramaditya II. Captured Conjeevaram but gave gifts to the Kailasanatha temple there. (? Papanatha, Pattadakal); Virupaksha & Mallikarjuna, Pattadakal.</i>		
754	<i>Chalukyan kingdom conquered by the Rashtrakutas who held it for about 200 years.</i>		
?	Navalinga, Kukkanur.	Pallava style superseded by Chola style.	ca 850
?	Kallesvara, Kukkanur.		

6. It is thus chronologically impossible that the earliest of these temples in the Chalukyan series could have been inspired by those in the Pallava series (pp. 12-13).

7. An inscribed stone pillar proves the existence of structural temples in the reign of the Pallava king Mahendravarman I, though the earliest free-standing Pallava temples that now survive are from the reign of his son Narasimhavarman I, all of which are moreover, monolithic. As the latter king used tiers of miniature cells in the ornamentation of all but the smallest of his free-standing temples, whether square, rectangular or apsidal in plan, it is probable that this was the ordinary style of decoration even before his time. It is believed to have originated in imitation of monasteries of several stories, of which the best authenticated example is the so-called Brazen Palace at Anuradhapura in Ceylon ; and there are no indications that such monasteries were particularly associated with the Pallava country. The remains of a large brick pyramidal Siva temple of about the first century B.C. with two tiers of cells, in the Bareilly District of the United Provinces, even suggests that such temples may at that early date have been prevalent in North India also. It is therefore in no way improbable that the Chalukyan and Pallava series of temples decorated with successive tiers of miniature cells may have originated independently of one another. On the other hand it must not be forgotten that Narasimhavarman I probably saw some of the earliest of these Chalukyan temples when he captured Badami, where one of them is situated, and his monolithic temples may have been made after this (p. 13).

8. The three earliest surviving Chalukyan temples with tiers of miniature cells appear to be the Mahakutesvara (before 600 A.D.), the Meguti, of which unfortunately the sikhara and most of the upper part is missing (634 A.D.) and the Malegitti-Sivalaya, (undated). In the two that are complete the sikhara is octagonal as in Narasimhavarman I's pyramidal temples, but it does not stand clear of the cells surrounding it, of which moreover the corner ones are two-storied and the other four flat-topped but surmounted by the four window ornaments of the sikhara. All three have a closed vestibule with simple pierced windows in front of the shrine. This is absent from Narasimhavarman I's temples, which have the sikhara raised well above the single storied surrounding cells, with a window ornament on each of its eight sides (pp. 12 and 14-16).

9. The curious double-arched torana found in early Pallava temples appears in precisely the same conventionalised form in the Malegitti-Sivalaya temple, but so far as can be seen from Cousens' figures not in either of the others. It was probably copied by the Chalukyas from the Pallavas after their attack on Conjeevaram under Pulasin II (p. 15).

10. The earliest and simplest Chalukyan temple with square sikhara that can be dated is the Sangamesvara at Pattadakal built by Vijayaditya (696-733 A.D.), but with this must be classed the shrine of the Bhutanatha temple at Badami and a ruined temple at the same place (pp. 16-17).

11. Next in this series come the Virupaksha and Mallikarjuna temples of the queens of Vikramaditya II, in which a projecting gable is added to the front of the tower. The

Papanatha temple, apparently of about the same period, in spite of the introduction of a row of miniature cells, belongs to the Vesara series (pp. 17-18).

12. The setting forward of the middle portion of each face is first seen in the Navalinga and Kallesvara temples at Kukkanur, the dates of which are unfortunately not known. In these temples we also find a change from rounded to sloping-ended corbels, remarkably similar to that which marked the change from Pallava to Chola work in the Dravida style, evidently at about the same time (p. 20).

13. In Kadamba architecture also we find the successive introduction of the square sikhara, the projecting gable in front of the tower and the setting forward of the middle portion of each of its faces (pp. 11-12).

14. The Chalukyan Vesara and the Kadamba styles seem to have been absorbed by the Chalukyan Nagara style in its further development, resulting in the elaborate and ornate style of the Hoysalas (p. 20).

15. The Kodumbalur temples have been connected with the temples of Mahendrarvarman I through the Valaiyankuttai Ratha, and have been compared with the Pallava-Chola transition temple at Bahur and with the Chalukyan Navalinga temple at Kukkanur (pp. 8-10 and 20).

16. Though the Papanatha and Virupaksha temples at Pattadakal bear inscriptions that seem to indicate that their architects had come from the south, by which must presumably be meant the Tamil country, they form part of the Chalukyan Vesara and Nagara series respectively, not of the Dravida series. Nor can we find any feature in them that definitely indicates influence by the Dravida style. Taken in conjunction with an inscription at Peddavaduguru in the Gooty taluk of the Anantapur District and with Vikramaditya's recorded admiration of the Kailasanatha temple at Conjeevaram, the conclusion seems almost unavoidable that these architects were Tamil, especially Sri Gunda who built the temple of Virupaksha (pp. 18-20).

17. Judging from the epithets applied to him in the inscriptions, Sri Gunda seems to have been a man of outstanding power and ability, and we suggest as not unlikely that he (or possibly some other Tamil architect at the Chalukyan court at about this period) may have been not only an architect but also the author of the *Manasara*. Coming from the land of the Dravida style of architecture such a man would find himself among temples of the other two styles therein mentioned, which would not only provide the materials for such a work but also would be particularly likely to suggest the desirability of undertaking it. The iconography of the *Manasara* clearly indicates its southern origin (pp. 7 and 21-22).

In conclusion we would emphasise that few if any of the facts of this paper are new. Apart from a speculation to which we have been led as to the authorship of the *Manasara*, all that we have done is to bring well-established facts into relation with one another in the light of a literal translation of a passage in the *Manasara*, and to point to

their logical conclusion regarding the identification of the Nagara, Vesara and Dravida styles, and to the chronological relation between the Dravida and the Chalukyan Nagara, the early development of which we have had to follow in some detail. Fresh study of the original monuments is needed finally to establish or refute our conclusions and, whatever their result, we believe that detailed work on the evolution of motifs within each of the two Chalukyan styles and on the relation of these styles to one another, would make possible the dating (by reference to this evolution) of many temples, the age of which remains at present largely a matter of conjecture. When, in addition, similar work is done on the various other local divisions of the Vesara style, we believe that a flood of new light will be thrown on Indian Archaeology by the increase in precision that will thus be made possible.

PLATES.

The figures in the plates, with the exception of pl. i fig. 2 which is from a photograph supplied by Fr. Heras, S.J., have been drawn from the sources mentioned in the text or from original photographs. They necessarily include much detail that is irrelevant to the matter they illustrate and it has unfortunately not always been possible to get this represented with perfect accuracy especially when, as in the case of pl. ii, fig. 2, the clearness of the original left much to be desired.

PLATE I.

1. Dravida temple with octagonal sikhara : the Shore Pagoda at Mahabalipuram.
2. Kadamba (? Nagara) temple: simple form without sikhara and without gable in front of vimana. Kodikoppa, Dharwar District.
3. Chalukyan Vesara temple, one of the Mahakutesvara group.
4. The so-called Arjuna Ratha, Mahabalipuram.
5. The Valaiyankuttai Ratha, Mahabalipuram.
6. Temple at Kodumbalur, Pudukkottai State.

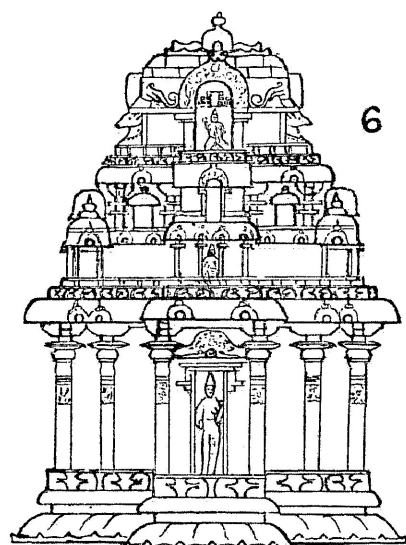
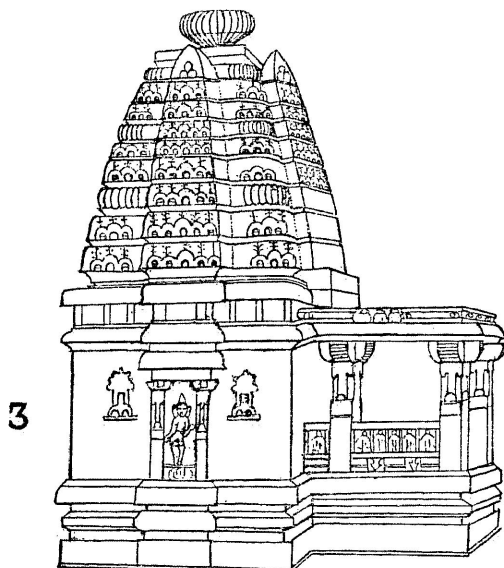
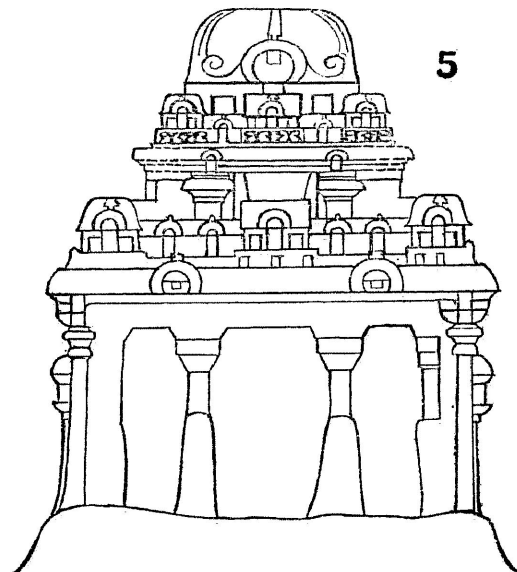
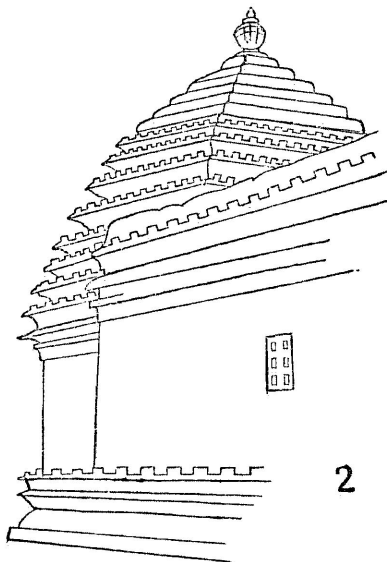
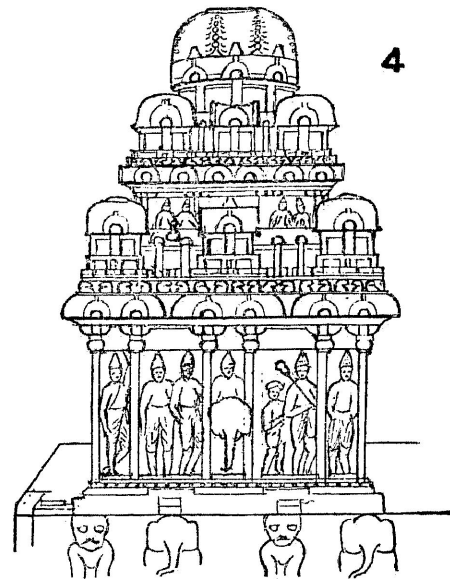
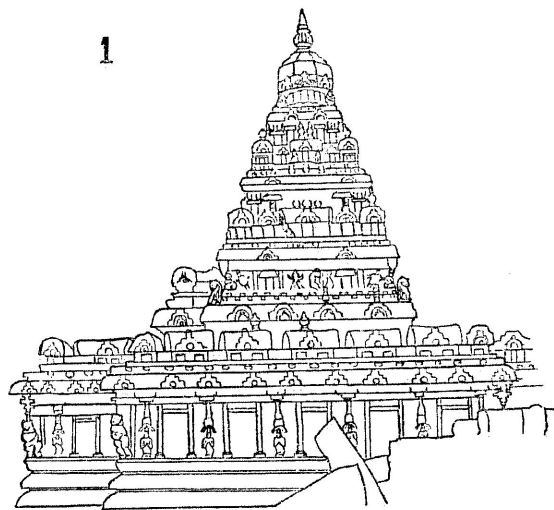
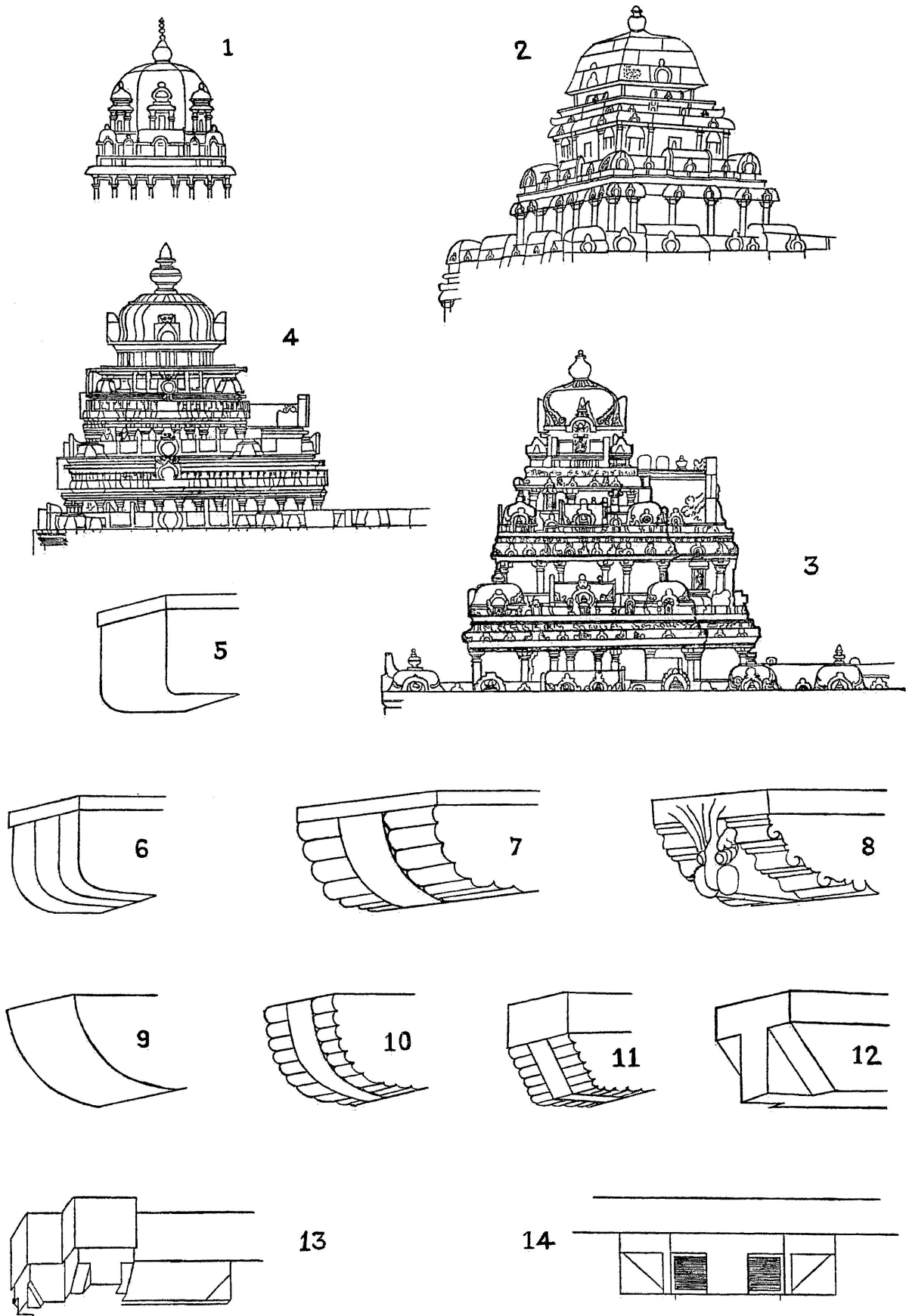


PLATE II.

1. Top of vimana of the Mahakutesvara temple near Badami showing octagonal sikhara ; before A.D. 601.
2. Vimana of the Sangamesvara temple, Pattadakal, showing square sikhara ; between A.D. 696 and 733.
3. Vimana of the Virupaksha temple, Pattadakal, showing addition of projecting gable in front ; between A.D. 733 and 746.
4. Vimana of the Kallesvara temple, Kukkanur, showing later modifications in the still essentially square sikhara and reduced emphasis on the tiers of cells ; date not definitely known.
5. Corbel from porch of the Mahakutesvara temple, near Badami.
6. Corbel from porch of the Malegitti-Sivalaya temple, Badami.
7. Corbel from temple No. 10, Aihole (Vesara), very similar to if not identical with those of the interior of the Malegitti-Sivalaya temple, Badami.
8. Corbel from the Virupaksha temple, Pattadakal.
- 9 and 10. Two types of Pallava corbel found at Trichinopoly, Mahabalipuram, etc.
11. Corbel of Pallava-Chola transition period, Bahur.
12. Typical corbel of Early Chola Period.
13. Group of Early Chola corbels from over a corner pilaster of the great temple at Tanjore.
14. Group of Chalukyan corbels from over a pillar of the Kallesvara temple, Kukkanur.



TEMPLE ARCHITECTURE.

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